

**REMARKS**

Claims 45-73 are pending in this application. By this Amendment, claims 45-65, 69 and 73 are amended. Reconsideration of the application is respectfully requested.

The Office Action rejects claims 45-73 under 35 U.S.C. §112, second paragraph, as indefinite. This rejection is respectfully traversed.

The Office Action asserts that the term "off-line programming" is not adequately defined. By this Amendment, claims 45-65, 69 and 73 are amended to delete the term "off-line," thereby rendering the position stated by the Office Action moot.

The Office Action asserts that claim 69 is claiming both a method and an apparatus. Applicants respectfully submit that claim 69 is a proper method claim, as all features of the apparatus are confined to the preamble (that is, to the section of the claim preceding the words "the method comprising:" in line 37 of claim 69). Furthermore, claim 69 is amended to recite "A method of using a machine vision inspection system," further clarifying that claim 69 is a method claim.

The Office Action asserts that claim 73 is indefinite because of the use of the term "a first portion" in the preamble and after the preamble. By this Amendment, claim 73 is amended to delete the term "a first portion" from the preamble. Applicants respectfully submit that there is no requirement under 35 U.S.C. §112, second paragraph, to further specify "the first portion," since the breadth of the language does not render the claim indefinite.

Accordingly, Applicants respectfully request that the rejection of claims 45-73 under 35 U.S.C. §112, second paragraph be withdrawn.

The Office Action rejects claim 69 under 35 U.S.C. §101, as being directed to non-statutory subject matter. However, as explained above, claim 69 is a proper method claim, as

all apparatus features are confined to the preamble. Therefore, Applicants respectfully request that the rejection of claim 69 under 35 U.S.C. §101 be withdrawn.

The Office Action rejects claim 45 under 35 U.S.C. §103(a) over "Modeling optical vision systems with innovative software" by Michael Stevenson et al. (hereinafter "Stevenson") in view of the article "Robotics." This rejection is respectfully traversed.

The Office Action asserts in item 59 that Stevenson discloses the feature "generate at least one control instruction" on page 32, wherein Stevenson discloses: "This type of analysis also permits designers to dissect the functional limitations inherent to their system. In this situation, it is possible to decide the proper light-source intensity and position, imaging camera position, depth of focus, effective focal length, field of view, and CCD camera resolution." The Office Action then further asserts: "Note that to 'decide' the 'proper' parameters inherently means controlling them with instructions." Applicants respectfully disagree.

Applicants assert that, to the contrary, nowhere in Stevenson is a control instruction generated, and that the disclosure of "deciding the proper light-source intensity..." in no way inherently or expressly discloses controlling the optical system with instructions.

The simulation system of Stevenson is used to analyze the effects of placement and intensity, for example, on the illumination provided by an optical system. The phrase "deciding the proper light-source intensity" means only that the designer is given simulation information, leading him to choose a proper design or layout for the optical system. As such, the simulation system of Stevenson is only intended for designing a layout or analyzing optical vision systems, not for controlling those systems. Nowhere in Stevenson is there any suggestion that the simulation system be used to generate control instructions, which actually control the operation of the system.

The Office Action further asserts in item 31 that the control "instruction" is disclosed in Stevenson on page 29. Page 29 discloses: "By designing computer models of these systems, they can be readily fine-tuned or even constructed- a process that saves time, effort and money." The Office Action then asserts that Stevenson is thus implicitly intended for "designing and/or controlling the actual physical system which is being evaluated." While Applicants agree that Stevenson is intended for designing the actual physical system, there is no disclosure or intent in Stevenson to control the actual physical system, as argued above.

The Office Action admits that the additional features of claim 45 are not disclosed in Stevenson and relies on Robotics to provide the missing subject matter. However, Applicants respectfully submit that there is no motivation to combine Stevenson with Robotics, because, as argued above, Stevenson does not envision controlling the simulated system with instructions generated by the simulator. Accordingly, Stevenson has no use for, nor can Stevenson use, the teachings of Robotics.

Robotics is directed to robots having machine vision. There is no disclosure or suggestion to combine the robot with a simulator for any particular advantage. Thus, one of ordinary skill in the art would not have been motivated to combine Stevenson and Robotics. There is no motivation stated in the references themselves. Thus, the only motivation for making the proposed combination is impermissible hindsight based on Applicant's disclosure.

The Office Action asserts in item 66, that the motivation is "to implement Stevenson's machine vision simulation analysis of optimized parameters ('decide the proper light source intensity...') in a modern computer controlled factory using robots." However, this motivation is purely speculative, particularly with respect to the uses and features claimed by Applicant, as there is no contemplation or description in Stevenson of any implementation of the simulation methods of Stevenson "in a modern computer controlled factory using robots." Furthermore, one of ordinary skill in the art would understand a simulation analysis, such as

that provided by the combination of programs disclosed in Stevenson, is used only to provide design information, and would not expect, or understand how, to generate control instructions using the technology of Stevenson. Therefore, one of ordinary skill in the art would not be motivated "to implement the simulator in a modern, computer controlled factory," as it is only speculation as to how or why one would perform the alleged implementation, particularly with respect to the uses and features claimed by Applicant.

Furthermore, the Office Action admits in item 66 that it is not inherent that "Stevenson's complex focus dependent machine vision simulation results will be implemented in a physical machine vision system," but attempts to assert that it is "implicit." Applicant respectfully disagrees, finding that such an "implicit" use is based only on certain interpretations set forth by the Office Action that are based on impermissible hindsight, interpretations that furthermore run contrary to the tone, technical focus, and overall application described by Stevenson.

It is well settled that a rejection based on 35 U.S.C. §103 must rest on a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ 1596, 1598 (Fed. Cir. 1988). The Examiner may not resort to speculation, unfounded assumptions or hindsight reconstruction to supply the deficiencies in the factual basis. See In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968). Since the Office Action has failed to cite a proper motivation, or establish that one of ordinary skill in the art would be motivated to make the claimed combination of features, the Office Action has failed to make out a *prima facie* case of obviousness.

Applicant respectfully requests, therefore, that the rejection of claim 45 under 35 U.S.C. §103(a) be withdrawn.

The Office Action rejects claims 46-73 under 35 U.S.C. §103(a) over Stevenson in view of Robotics and further in view of U.S. Patent 5,137,450 to Thomas. This rejection is respectfully traversed.

Applicant submits that Thomas does not remedy the deficiencies of Stevenson with respect to: "generate at least one control instruction," as recited in claim 45, "usable to generate the instructions for controlling," as recited in claim 55, "usable to determine instructions for controlling," as recited in claims 57, 65 and 69, or "generates instructions for controlling," as recited in claim 73.

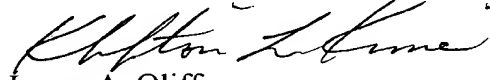
Thomas is directed to a flight simulator for pilots, and does not suggest in any way combining the flight simulator with some portion of an actual airplane to generate instructions for the airplane. The intent of the flight simulator is to train pilots to control an airplane, not to control the airplane itself.

Since the Office Action has not demonstrated that all of the claimed features are taught or suggested by the reference, a *prima facie* case of obviousness has not been established. See In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1970). Accordingly, Applicant respectfully requests withdrawal of the rejection of claims 46-73 under 35 U.S.C. §103(a).

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 45-73 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:

Petition for Extension of Time

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